ABSTRACT OF THE INVENTION

The present invention relates to a method for identification of cellular protein antigens to which patients with cancer, or patients at risk for cancer, may develop autoantibodies. The method of the invention involves the use of patient derived sera for the identification of the cellular protein antigens using two-dimensional gel electrophoresis followed by Western Blot analysis. The identification of such protein antigens provides novel markers that can be utilized for screening, for diagnostics and prognosis of disease. The invention also provides for the use of the identified protein antigens in immunoassays designed to detect the presence of serum antibodies to the specific protein antigens in sera from individuals that may harbor such antibodies. The invention further relates to the use of the identified antigens as immunogens for stimulation of an immune response in patients expressing such protein antigens. The invention is demonstrated by way of example in which elevated levels of circulating autoantibodies reactive against a tumor specific antigen were identified in sera derived from a lung cancer patient. In addition, elevated levels of circulating autoantibodies reactive against several specific β-tubulin isoforms were detected in the sera of neuroblastoma patients.